DERWENT-ACC-NO: 1998-493691
DERWENT-WEEK: 199842

TITLE: Telephone communication system - has transmission device to pass call signal as standard protocol through computer circuit to converter, passing signal coded report through computing device into circuit

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PATENT-ASSIGNEE: SKIGIN D E [SKIGI]

PRIORITY-DATA:
1996RU-0114788 (August 7, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
RU 2105425 C1	February 20, 1998	N/A	005	H04M 011/00

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
RU 2105425C1	N/A	1996RU-0114788	August 7, 1996

INT-CL (IPC): H04M011/00
ABSTRACTED-PUB-NO: RU 2105425C

BASIC-ABSTRACT:
A telephone communication system contains a transmitting section with a telephone (1), a local telephone line, a signals detector-distribut or, a tone selection recognition device (4) determining the number of a called subscriber, an analogue-digital converter, compressor and computer.

A receiving section contains a telephone, a converter (12) of information of a called number, a number selector of a call signal, a voice and tone signals alternating transmitting device, a computer, decompressor , digital-analogue converter and voice signal transmitter.

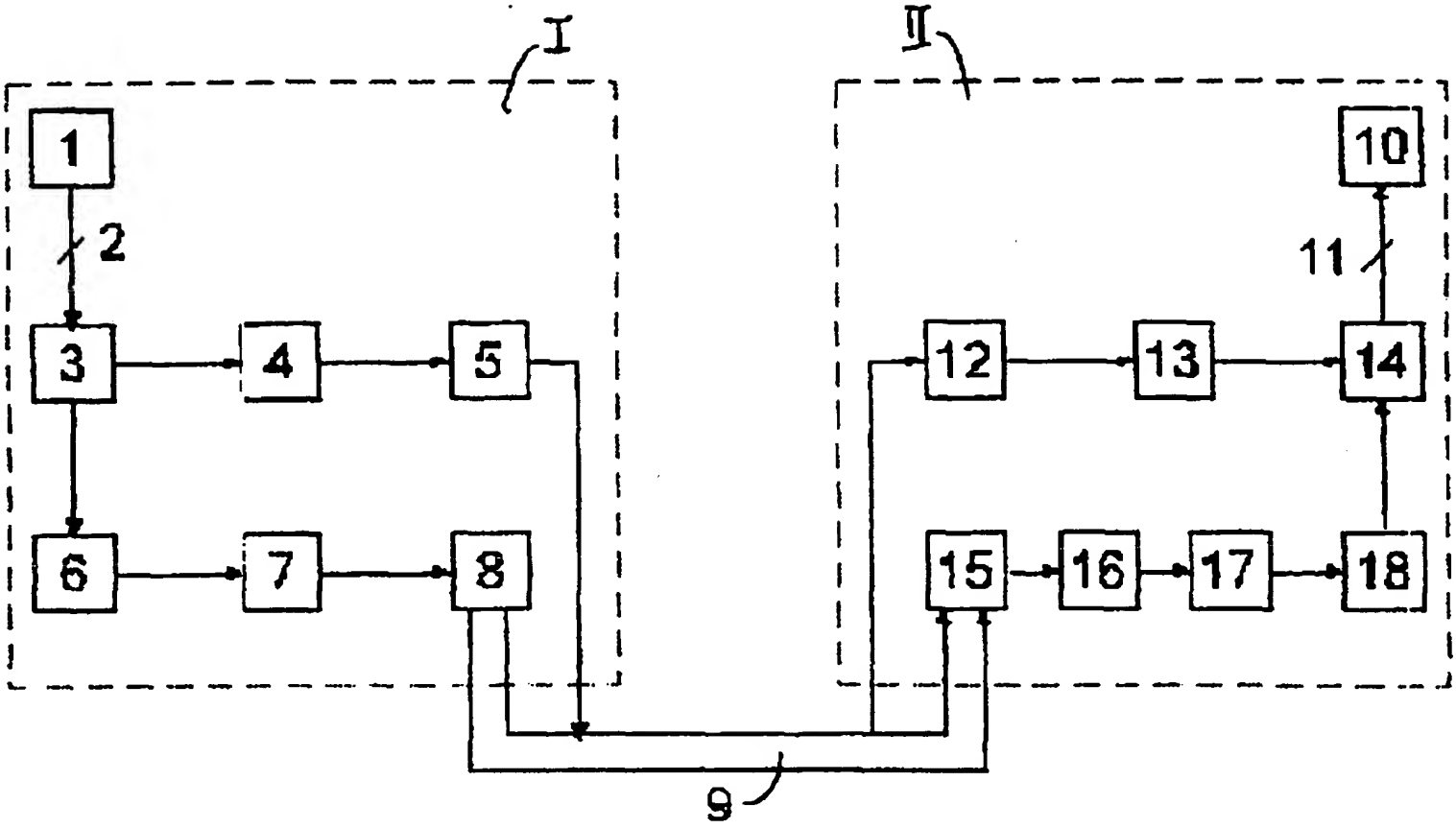
USE - Voice communication between subscribers of local telephone lines using computer circuit

ADVANTAGE - Direct transmission of voice information between remote subscribers

CHOSEN-DRAWING: Dwg.1/1

DERWENT-CLASS: W01

EPI-CODES: W01-C05B3;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2105425RU USPTO 2003-4803

Translated from the Russian

Russian Agency for Patents and Trademarks

DESCRIPTION OF INVENTION to a RUSSIAN FEDERATION PATENT

RU 2 105 425 C1
Date of application: August 7, 1996
Date of making available to the public the claims only of the document: February 20, 1998

Applicant: D. E. Skigin et al.
Inventor: Skigin et al.
Names of grantees: D. E. Skigin et al.

Title in Russian of the object of the invention:
Systema telefonnoy svyazi

TELEPHONE COMMUNICATION SYSTEM

The invention pertains to the electric communication technology, namely to telephone communication systems, combined with other electric systems, and may be used for the materialization of voice link between subscribers of subscriber lines by means of common-use computer networks.

A device, allowing to introduce voice communication into the telephone alarm system, is known from the PCT application No. 93/10621. Devices, in which the data transmission is alternated with the transmission of voice communications, is known from the US Pats. No. 5,142,567 and No. 4939772 and EP No. 0 363 680. Those devices are designed by using modems,

data converters, terminal equipment switches or commutators. The system, as claimed in PCT application No. 94/24803, has a wide range of functional capabilities, and it can transmit audiovisual data and information. The said system comprises a set of services, in order for virtual functions to be guaranteed, with the help of which, users, having different equipment, can be connected to one another, and, the access to integral as well as non-integral networks can be controlled. The system is quite intricate.

The communication system, which most resembles the proposed invention as far as the achievement of the technical objective is concerned, is the communication system in accordance with the US Pat. No. 5,325,423. The system comprises computers on the transmitting and on the receiving parts, which are connected by means of communication lines, analog/digital (ADC) and digital/analog converters (DAC) on the transmitting and receiving side of the system, respectively. The multimedia modem receives the dialogue complex information from the communication network, the storage receives the dialogue complex information from the modem. The data compression [compaction] device reduces at least part of the dialogue information, which is being received by the modem and the memory. The decompression device expands the said part of the information. A transmitter of the non-compressed part of the dialog information, received by the communication network, and a mixer of the expanded part with the non-compressed part in

order for the output signal to be generated, is sued in the said system.

The disadvantage of the said communication system consists in that its equipment part is intricate when a voice link is to be organized between the separate subscribers by way of the general use computer network because the analog signal, which is being generated by the system, is not suitable for the transmission of direct voice information in the local telephone lines.

It is an object of the invention to create a telephone communication system, guaranteeing a direct transmission of voice information between remote subscribers of local telephone lines, connected by means of a general-use computer network.

The set objective is achieved as a result of the fact that the system, containing the computer network, which system is connecting the computers onto the transmitting and receiving parts of thews system, the device for the compression of data, and the analog/digital converter on the transmitting side or section of the system, the device for the decompression of data and the digital/analog converter on the receiving side, is characterized in that the transmitting side of the system has a local telephone line, connected to the input of the detector-distributor of signals, whose first output is connected to the input of the voice-frequency dialling device, whose output is switched to the input of the device for the transmission of the

recognized number, the output of which device is connected to the computer network, [while] the second output of the detector-distributor of signals is connected ton the input of the analog/digital converter, whose output is connected to the input of the device for the compression of data, whose output is connected to the computer of the transmitting side [section] while the receiving side of the system has a local telephone line, connected to the output of the device for the transmission sequence [control] of the voice and voice-frequency signals, whose first input is connected to the output of the [telephone] dial of the call signal, to whose input there is connected the converter of information about the dialled number, whose input is connected to the computer network, the second input of the device for the sequential transmission of the voice and voice-frequency signals is connected to the input of the voice signal, to whose input there is connected the output of the analog/digital converter, whose input is connected to the output of the device for the decompression of data, whose input is connected to the computer of the receiving side [section].

The proposed set of elements and communications [links] provides an opportunity for the set objective to be achieved on account of an ingenious combination of apparatuses and equipment, used in telephone networks and general-use computer networks, in a direct form of application as well as in a non-standard mode of application.

When prior art or known technical solutions in the said subject area of technology were studied, a concomitance of the characteristic features of the object of the submitted invention, was not manifested.

Obviously, the proposed solution does not ensue from the prior art, and has inventive nature.

The proposed invention can be materialized by using existing means of communication and equipment, used in telephone exchanges and in computer networks, and can be utilized on an industrial scale.

The drawing shows a functional block diagram of the proposed telephone communication system wherein

I is the transmitting side or section of the system

II is the receiving part or section of the system

1 is telephone equipment of the transmitting side

2 is the telephone line of the transmitting side

3 is the detector-distributor of the signals of the transmitting side

4 is the device for the recognition of the voice-frequency set, in order for the number of the subscriber, who is being called, to be identified.

5 is a device for the transmission of the number, which has been recognized, in the form of a standard protocol of computer link.

6 is an analog/digital converter

7 is a device for the compression of digital data

8 is a computer, transmitting digital compressed data into the general-use network

9 is a general-use computer network

10 is the telephone equipment of the transmitting side

11 is the telephone line of the receiving side

12 is the converter of information about the called number

13 is the dial of the call signal

14 is the device of the sequence of the transmission of the voice and voice-frequency signals

15 is the computer, receiving digital data out of the general-use network

16 is the device for the decompression of data

17 os the digital-analog converter

18 is the transmitter of the voice signal of the receiving telephone exchange

On the transmitting side I, the proposed telephone communication system comprises a telephone equipment 1, connected by way of a telephone line 2 to the detector-distributor 3 of signals. The first output of the distributor 3 is connected to the input of the device 4 for the recognition of voice-frequency set for the determination of the number of a subscriber, who is being called, on the receiving side of the system. The output of the device 4 is connected to the input of the device 5 for the

transmission of the recognized number in the from of a standard protocol of a computer link [communication]. The second output of the detector-distributor 3 of signals is connected to the input of the analog-digital converter 6, whose output is connected to the input of the device 7 for the compression of digital data (compressor). The output of the latter device is connected to the computer 8, transmitting, transmitting digital compressed data into the general-use network 9, to which the output of the transmission device 5 is also connected.

On the receiving side II, the proposed telephone communication system comprises a telephone equipment 10, connected to the local telephone line 11. To the general-use computer network 9, there is connected a converter 12 of the information about the number, which is being called, receiving digital compressed data about the number, which is being called, out of the general-use network. The output of the converter 12 is connected to the number of the telephone dial of the call signal 13, whose output is connected to the first input of the device for the sequence of the transmission of the voice and voice-frequency signals 14. The computer 15 is connected to the input of the device 16 for the decompression of digital data, whose output, on its turn, is connected to the input of the digital/analog converter 17. The digital/analog converter is connected to the transmitter of the voice signal 18 of the receiving exchange, connected to the second input of the device

for the materialization of the sequence of the transmission of the voice and voice-frequency signals 14, whose output 14 is connected to the telephone line 11.

The mode of operation of the proposed system is as follows. When the number of the transmitting exchange is dialled, a connection takes place on the telephone equipment 1 along the telephone line 2, whereupon by means of the voice-frequency set, the number of the subscriber on the remote side of the system is dialled on the telephone equipment 1. Passing through the detector-distributor 3, that part of the communication, which contains the voice-frequency set [audio-frequency set], enters the device for the recognition of the number 4, and, after that, it enters the device 5 for the transmission of the call signal in the from of a standard protocol, and, by way of the computer network 9, is transmitted to the input of the converter 12. The information, which has entered the converter 12 is converted into a call signal, and is transferred onto the telephone dial of the call signal 13, whose signal - by way of the device 14 - emerges in the local telephone,a nd is received by telephone equipment 10. When a subscriber answers on the receiving side, the signals - corresponding to the audio-information - from the telephone equipment 1 and by way of the distributor 3 enter the analog/digital converter 6, out of which, after having been compressed by the device 7, are transferred to the general-use computer network 9 by means of the computer 8, which has been

connected to the latter, and is equipped with software, designed to attain the standard exchange of digital information within the framework of the common network protocols.

These data enter the analog computer on the receiving side of the system, wherein - after having been decompressed by means of the device 16 - they are converted into an analog signal by means of the analog-digital converter 16. The signal enters the reproducing device, namely the voice-signal transmitter 18, out of which - by way of device 14 for the sequence of the transmission of the voice and voice-frequency - it is lead out to the local telephone line, which is already open by the dialling signal, and is connected to the telephone equipment 10. In such a way, the subscriber, using telephone equipment 10, receives voice [audio] information from the subscriber on the transmitting side of the system.

In order for the dialog to be organized, each of the sides (sections) of the system is equipped with equipment, whose elements correspond to ones described above, in order to preform functions as transmitting and receiving exchange.

The proposed system for voice communication passed trail test, and demonstrated a high performance quality. The proposed invention provides new opportunities for the transmission and reception of a signal, using general-use equipment, which is simplified the process and lower its cost, and may be sued as an optimal solution for the setting up of corporative communications

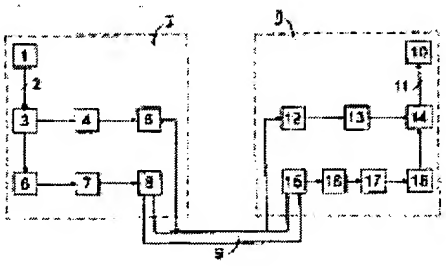
centers of intercity and international communications, providing an opportunity to the user to activate one and the same channels for the transmission of computer data, and for the setting up of voice communication.

C L A I M

Telephone communication system, comprising a computer network on the transmitting and on the receiving side [section] of the system a device for the compression of data, and an analog/digital converter on the transmitting side of the system, characterized in that the transmitting side of the system has a telephone equipment, connected by way of the local telephone line to the input of the detector-distributor of the signals, whose first output is connected to the input of the device for the recognition of the voice-frequency set, whose output is connected to the input of the device for the transmission of the recognized number, whose output is connected to the computer network, the second output of the detector-distributor of the signals is switched to the input of the analog/digital converter, whose output is connected to the input of the data-compression device, whose output is connected to the computer of the transmitting side, while the receiving side of the system has a telephone equipment, connected by way of the local telephone line to the output of the device for the sequence of the transmission of the

voice and voice-frequency signals, whose first input is connected to the output of the dial of the call signal, to whose input there is switched the converter of information about the number,m which is being called, whose input is connected to the computer network, the second input of the device for the sequence of the voice and voice-frequency signals is connected to the output of the transmitter of the voice signal, to hose input there is switched the output of the digital/analog converter, whose input is connected to the output of the device for the decompression of data, whose input is connected to the computer of the receiving side.

USDOC/USPTO/STIC/Translations Branch
Translated by John M Koytcheff, MSc (Engrg.)
USPTO Translator (GERMAN & Germanic languages)
August 13, 2003



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Fax Cover Sheet

Date: 13 Aug 2003

To: J. Harold Nissen	**From:** George Eng
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Comments:
Enclose with a translation of Russian Patent RU 2,105,425 C1.

Number of pages 12 **including this page**

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